



**BAA for Concept Exploration & Refinement
Presolicitation Conference**

Office of Exploration Systems (OExS)

7 May 2004



Agenda



- **0830-0900 Exploration Systems Overview**
Rear Admiral Craig E. Steidle (Ret.)
Associate Administrator for Office of Exploration Systems
- **0900-0930 BAA Objectives and Process Supporting Concept Exploration & Refinement**
Captain Michael Hecker
Deputy for Development Programs
- **0930-1000 Overall Project Constellation Acquisition Strategy**
Mr. Garry Lyles
Deputy Division Director for Project Constellation
- **1000-1200 Industry Questions and Inputs**
Captain Michael Hecker (Facilitator)

Goal: To solicit questions and feedback on our proposed BAA objectives and process prior to release of solicitation



Key Elements of the Nation's Vision



- **Objectives**

- Implement a sustained and affordable human and robotic program
- Extend human presence across the solar system and beyond
- Develop supporting innovative technologies, knowledge, and infrastructures
- Promote international and commercial participation in exploration

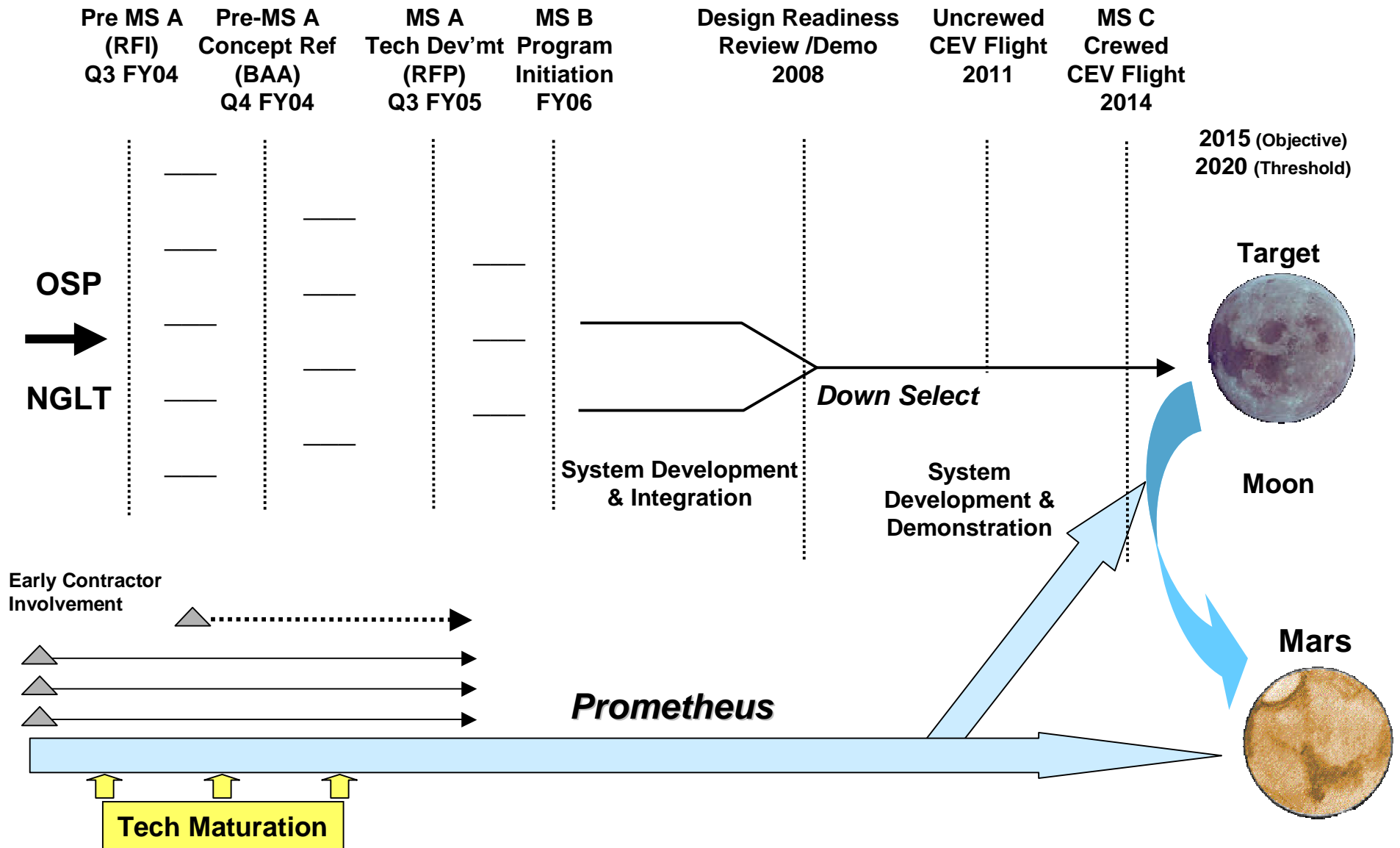
- **Major Milestones**

- | | |
|--|----------------------------------|
| – Initial flight test of CEV | 2008 |
| – Launch first lunar robotic orbiter | 2008 |
| – Robotic mission to lunar surface | 2009 - 2010 |
| – First Uncrewed CEV flight | 2011 |
| – First crewed CEV flight | 2014 |
| – Jupiter Icy Moon Orbiter (JIMO)/
Prometheus | 2015 |
| – First human mission to the Moon | 2015 Objective
2020 Threshold |





Project Constellation Program Acquisition Strategy Overview (Baseline)



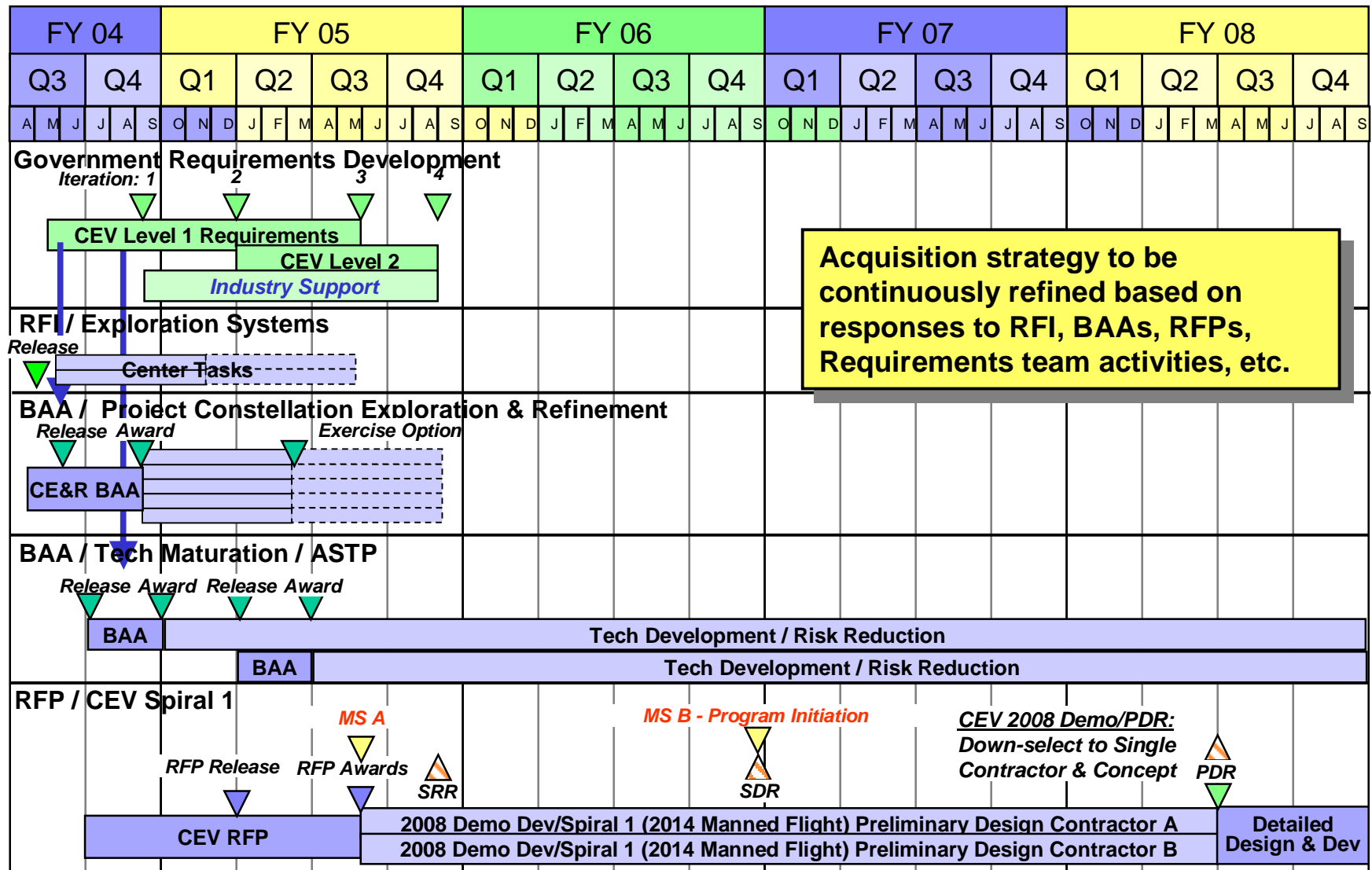


FY 2004 Schedule





Near-Term Acquisition Strategy





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Maximizing Innovation

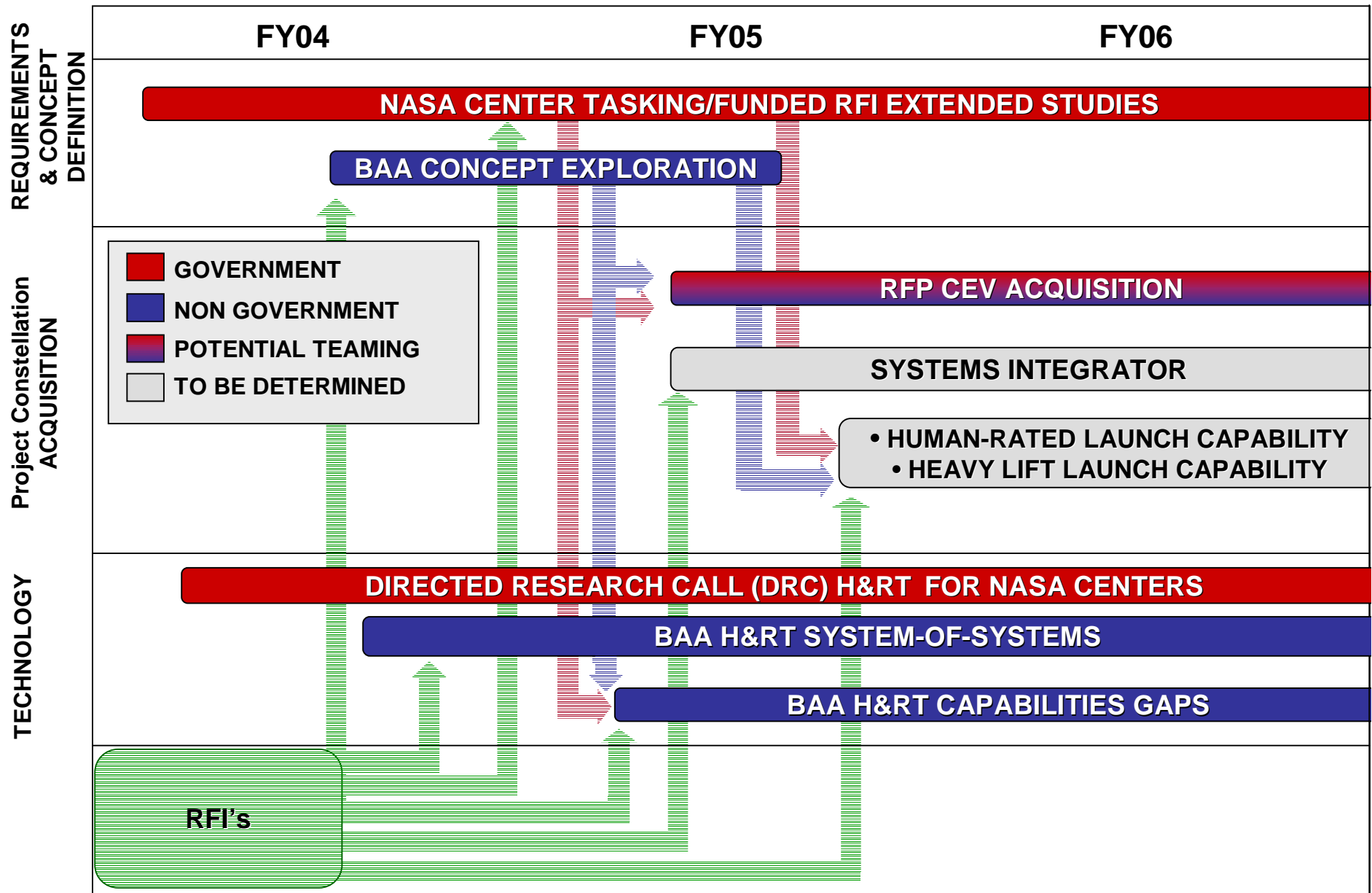


- **Maximize Government Effectiveness as a “Smart Buyer”**
 - Draw on lessons-learned from Packard, CAIB, JSF...
 - Process will incorporate best design/programmatic inputs from government/industry to satisfy requirements with major consideration given to:
 - Sustainability and Affordability
 - Flexibility of design to support subsequent spirals for Lunar/Mars exploration
 - Help support requirements formulation and prioritization process
 - Define and refine the CEV RFP Statement of Work (SOW)

Combination of government and industry inputs
will lead to a sustainable and affordable RFP
in support of the Nation's Vision



Project Constellation Acquisition Strategy Framework





BAA/RFP Summary Slide



Acq Strategy Spt	Gvt	Non Gvt	Req's Dev ¹	CEV RFP	Tech Dev ²	Release Date
Task Orders for Baseline Req considerations	✓		✓	✓		Issued
Request for Information (RFI's)	✓	✓	✓	✓	✓	Issued Apr
HR&T DRC for Tech Mat & Advanced Science Tech	✓				✓	May 04
BAA for Concept Exploration & Refinement		✓	✓	✓		Jun 04
RFI Extended Studies	✓		✓	✓		TBD
Task Orders for Validation of BAA results	✓		✓	✓		TBD
HR&T BAA for Advanced Science Tech		✓			✓	Jul 04
HR&T BAA for Tech Mat		✓			✓	Jan 05
CEV Request for Proposal	✓	✓	✓	✓		Jan 05

BAA: Broad Agency Announcement
RFP: Request for Proposal

Note 1: For Spiral 1 only

Note 2: For subsequent Spirals



BAA Study Scope



- **Preliminary Concepts for Human Lunar Exploration (2015-2020)**
 - Based on the Nation's Vision, make recommendations for the scientific, economic, and security objectives of lunar exploration
 - Using a "system-of-systems" approach, develop a technical solution that meets the above objectives
 - Identify and conduct system level trades between cost and performance
 - Identify system and subsystem components that are common or extensible to Mars exploration
- **Initial CEV Concept**
 - Complete initial allocation of functionality to a CEV
 - Provide concept for CEV to include mold line and subsystems
 - Draft development plan that supports Spiral I objective of human orbital flight by 2014
 - Identify the objectives of a demonstration flight in 2008



Technical Contents of Proposal



- **Recommended scientific, economic, and security objectives for lunar exploration consistent with the Nation's Vision**
- **Initial concept for System-of-Systems architecture that meets above objectives**
- **Initial CEV concept to include functionality, mold line, support systems, mass, and proposed launch system**
- **Cost and operational performance analysis and trades to be completed**
- **Resources, tools, and methodology to be used in performing analysis**
- **Proposed level of support for technical interchange meetings at NASA Headquarters**



Deliverables after Award



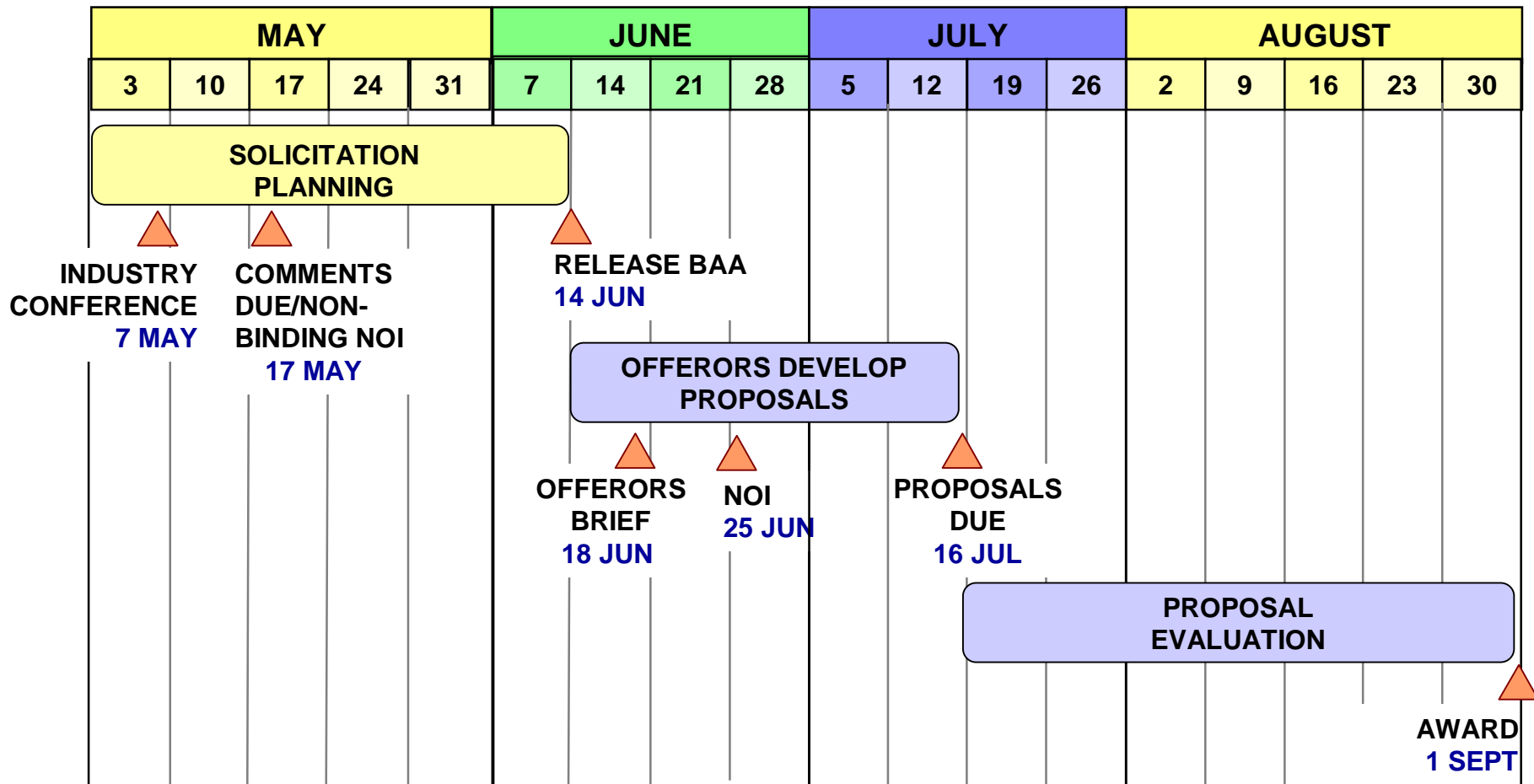
- **30-45 Days After Contract Award**
 - Updates to objectives, concept for lunar exploration, concept for CEV
 - Preliminary cost estimate for CEV Spiral 1

- **60-90 Days After Contract Award**
 - Updates to objectives, concept of operations for lunar exploration, concept for CEV, cost estimate for CEV spiral 1
 - Initial findings from analysis and trades, draft CEV development plan, draft objectives of 2008 demonstration

- **180 Days After Contract Award**
 - Final report on objectives, concept of operations for lunar exploration, concept for CEV, CEV development plan, objectives of 2008 demonstration
 - Preliminary cost estimate for Project Constellation Spiral 1
 - Recommendations for further study



Schedule



- Pursuing an Aggressive Schedule to Accelerate Industry Participation
- Seeking Contract Awards Not-Later-Than 1 September 2004



Contracting Information



- **Vehicle: BAA**
- **Award Type:**
 - **FFP for commercial firms**
 - **CPFF or CR (no fee) for educational and nonprofit organizations only**
- **Proposal Outline**
 - **Transmittal Letter**
 - **Restriction on Use and Disclosure of Proposal Information**
 - **Executive Summary**
 - **Project Description**
 - **Management Approach**
 - **Proposed Cost**
- **Period of Performance**
 - **Six Month Base**
 - **Month-to-Month Options for up to Six Months**



Contracting Information (Con't)



- **Contract Value:** \$6M per contract (\$3M base/\$3M options)
- **GFE:** None anticipated
- **Procurement Office:** Office of Exploration Systems
- **Contracting Officer:** Mark Stiles
- **Technical Lead:** Mike Hecker
- **Proposal Submittal:**
 - All submittals will be done through the web
 - Hardcopies will NOT be accepted



Data Rights



- **All data produced and delivered under the contract will be “unlimited rights” data under FAR 52.227-14**
- **The Government will protect the competitive nature of contractor’s design solutions relating to CEV while retaining the right to use all unlimited rights data for defining, deriving, and/or validating CEV requirements**
- **The Government will not incorporate the Contractor’s specific CEV design solutions into CEV requirements**
- **Data related to the task area entitled Preliminary Concepts for Human Lunar Exploration (2015-2020) will not be protected for competition**



Evaluation Criteria & Process



- **Criteria**
 - **Relevance to NASA Objectives**
 - Safety/Reliability
 - Affordability
 - Effectiveness
 - Development Risk/Schedule Realism
 - Sustainability
 - Extensibility/Evolvability
 - **Technical Merit**
 - Unique or innovative concepts and/or approach
 - Completeness and suitability of proposed SOW
 - Offeror's capabilities and related experience (including systems engineering & analysis);
 - Key Personnel qualifications and experience
 - Small Business and Small Disadvantaged Business utilization
 - **Cost**
- **Evaluation Process – Three Step Process Modeled after JSF**
 1. Initial screening to identify most likely candidates
 2. Detailed review to identify award candidates
 3. Select and final award after negotiations



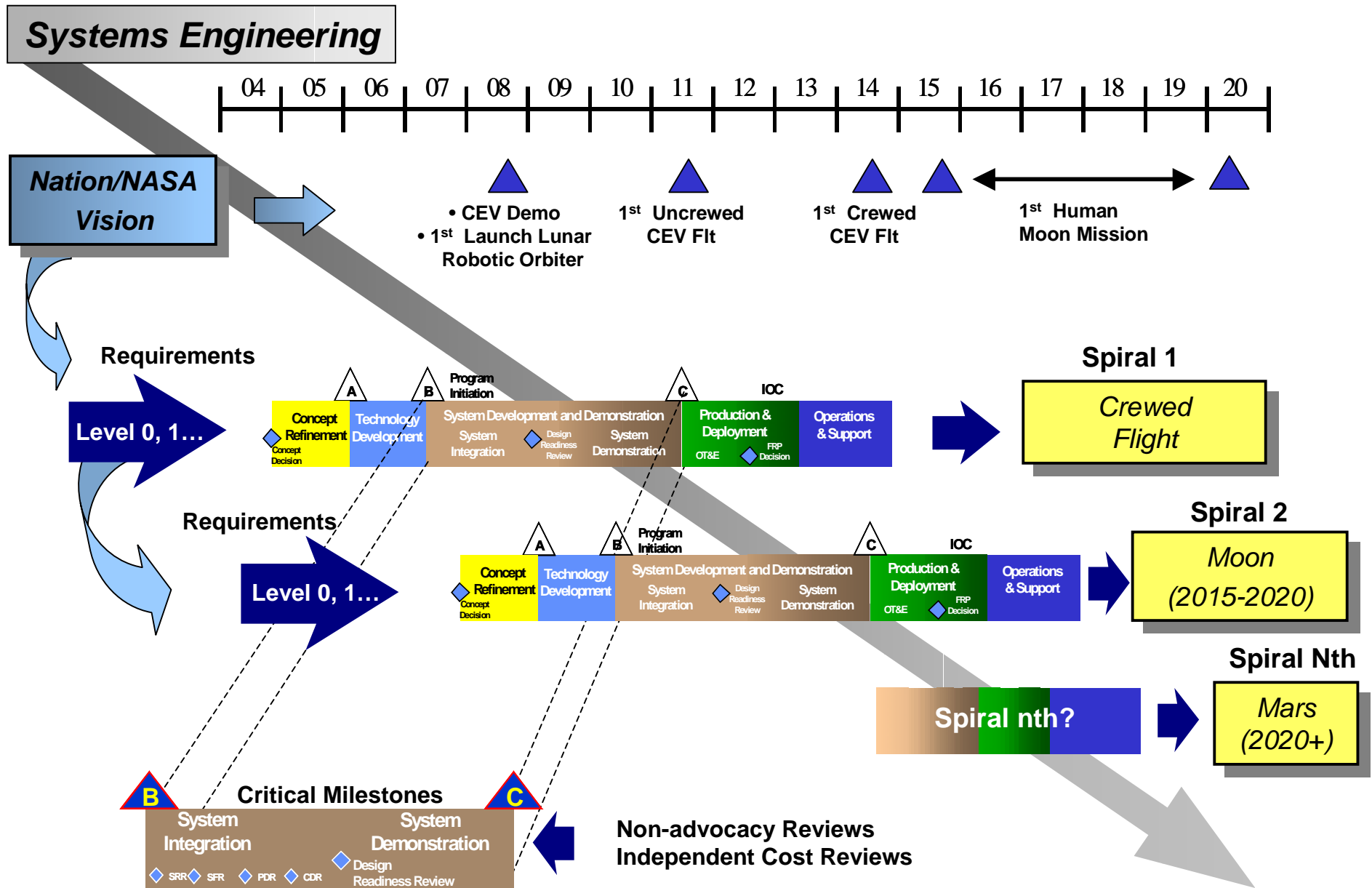
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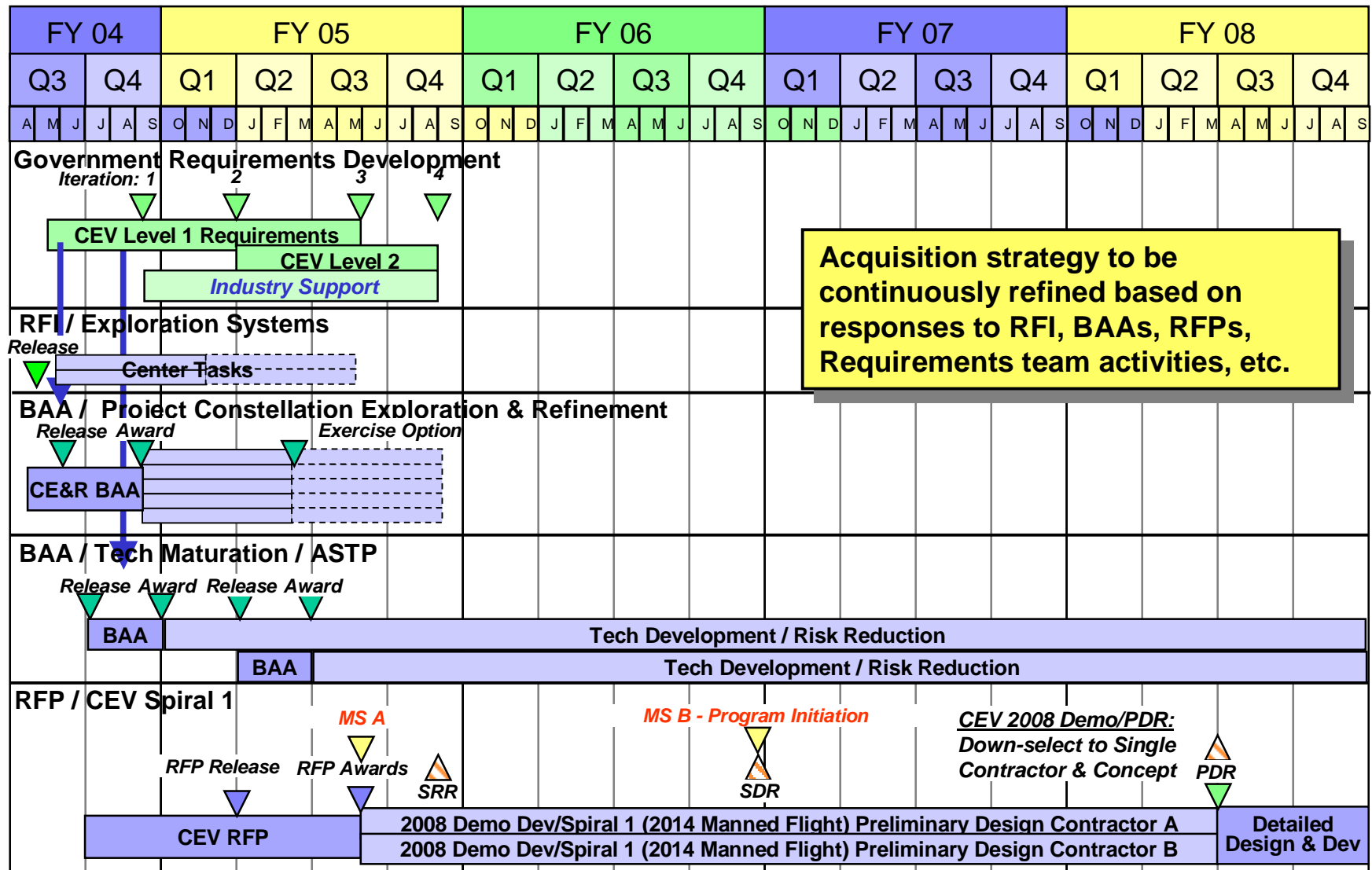


Project Constellation (Crew Exploration Vehicle)



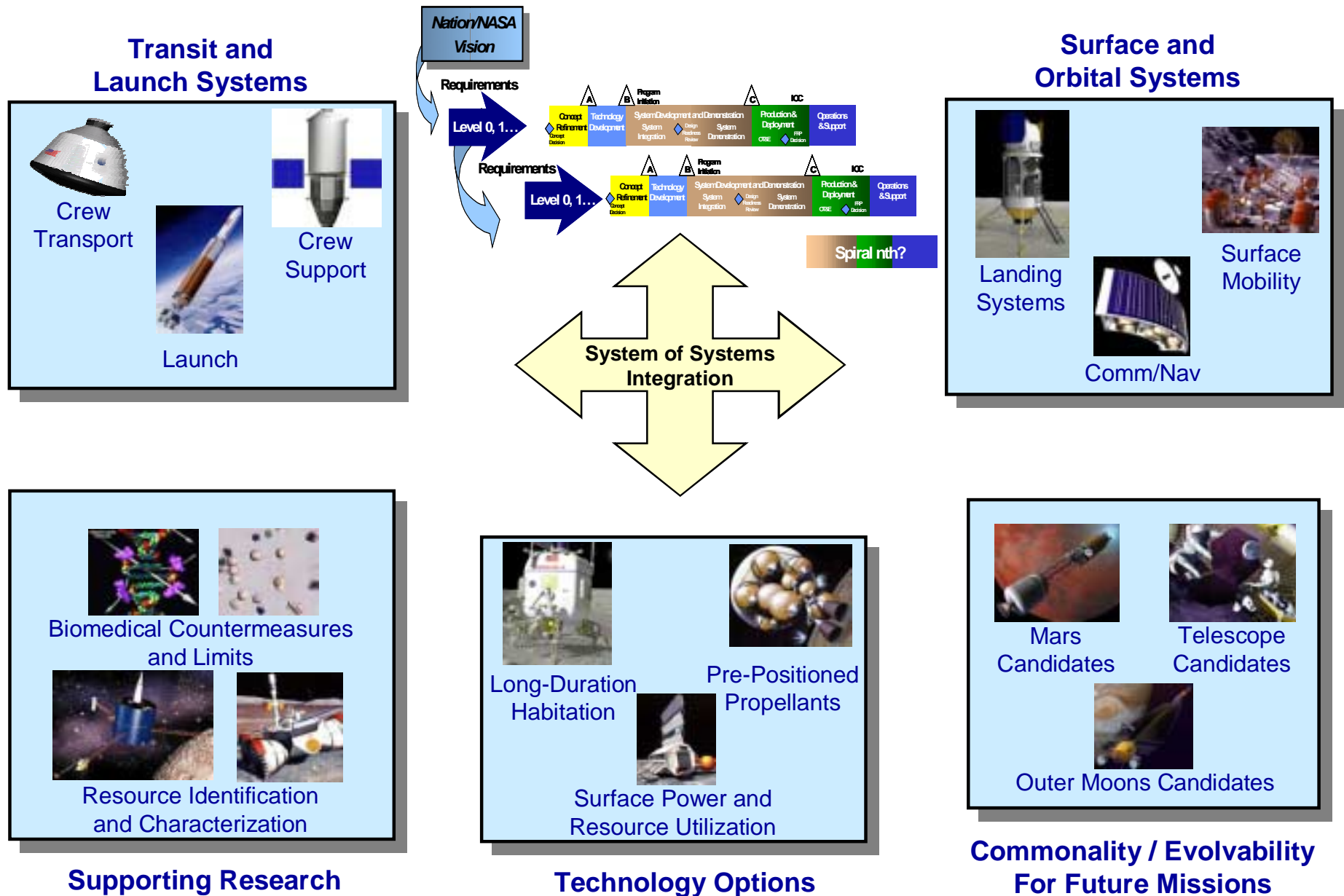


Near-Term Acquisition Strategy





Cross-Agency, System of Systems Integration (Lunar Architecture – Illustrative Example Only)





Project Constellation Strategy Considerations



- **Accelerated development milestones over traditional approach**
- **CEV RFP:**
 - Initial award to at least 2 contractors
 - 2008 Flight Risk Reduction Demonstration
 - Downselect after flight demonstration
 - CEV concept at PDR supporting downselect
 - 2011 Uncrewed Flight Prototype
 - 2014 Crewed Flight
- **Other Project Constellation elements for consideration:**
 - Systems Integration
 - Human-rated Launch Capability
 - Heavy Lift Capability
 - Other System-of-Systems elements



BAA Supporting Products Available on the Website



- **Today's Brief**
- **Office of Exploration Systems Overview**
- **Office of Exploration Systems developed Work Breakdown Structure**
- **Budget Baseline: NASA published Funding Resources for Nation's Vision for Space Exploration**
- **Draft BAA (to be posted after RFIs evaluated)**



Instructions to Offerors Submitting Comments



- **Submit Comments and Questions to:**
<https://naccsli1.msfc.nasa.gov/ExplorationPortal>
- **Rules for Questions/Comments on Presolicitation Brief**
 - Due by 17 May
- **Submittal Format**
 - 25 MB Limit
 - Microsoft® Word Document format
- **Page Limits**
 - 20 pages for project description and management approach
 - 5 pages for Statement of Work
 - 15 pages for cost proposal
- **Point of Contact Information**
 - Required when submitting questions and comments
 - However all postings on website will be anonymous



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